



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,741	08/15/2001	Edwin Frank Rejda	1734.041US1	1976

7590 05/19/2004

Paul T Dietz
Seagate Technology LLC
Intellectual Property Department -NRW097
7801 Computer Avenue South
Bloomington, MN 55435

EXAMINER

MCDONALD, RODNEY GLENN

ART UNIT	PAPER NUMBER
----------	--------------

1753

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/930,741	Applicant(s) REJDA ET AL.	
	Examiner Rodney G. McDonald	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-20 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 is/are allowed.
- 6) ☒ Claim(s) 8-10, 12, 19, 20 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 11, 13-18 and 33-38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-11-02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19, line 1, is indefinite because the word "magnincludes" is indefinite.

Claim 19, lines 2 and 3, is indefinite because the phrase "the resistance measured" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 12 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Shouji (U.S. Pat. 5,799,388).

Shouji teach in Fig. 2D ***a plurality of rows 26 (Compare to Applicant's elongated element held by the carrier or to Applicant's target)*** set on ***the upper surface of an XY stage 50 (Compare to Applicant's carrier)*** of an exposure device with the photosensitive film facing upward. The exposure device is a stepper, for example, ***used for manufacturing semiconductor devices. (Compare to Applicant's use in semiconductor fabrication)*** Above the XY stage 50 of the exposure device, ***a mask or reticle 53 (Compare to Applicant's dynamic mask)*** that

includes mask 54 with a pattern for the right side of the rail and a mask 56 with a pattern for the left side rail is disposed. **Control signal from a controller 57** gives the information as to which of the two masks 54 and 56 should be employed and **moves the mask. (Compare to Applicant's dynamic mask for selectively covering a first portion and acting on a second portion or means for covering a portion of a target to prevent exposure of the portion of the target from the semiconductor fabrication process while an uncovered portion remains subjected to the semiconductor process)** (Column 7 lines 3-15)

Each row serves to provide **magnetic heads** from a severed wafer. **(Compare to Applicant's magneto resistive elements slice from a wafer)** (See Abstract)

Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Triller (U.S. Pat. 3,193,408).

Triller teach a device and method of producing integrated circuitry components by the deposition of thin films through movable masks onto insulated substrates, such as glass, fused silica, or ceramic substrates. (Column 1 lines 15-19)

The present invention contemplates a plurality of shields that are slidable relative to the substrate having films deposited thereon. The shields may be programmed, as by use of punched cards, to automatically provide for the desired patterns on the substrate. (Column 1 lines 38-42)

In Figs. 3 and 4 of the drawings there is shown a pair of L-shaped masks 15 and 16 that are slidably mounted by any suitable means so that each mask can be moved in two mutually perpendicular directions. As shown in Fig. 4 of the drawings, mask 15 can

travel over mask 16, and thus any desired opening 17 can be formed in the two masks. This arrangement permits the material being evaporated to be deposited onto the substrate 11 at the desired location and at the desired shape. (Column 2 lines 29-38)

Referring now to Figures 5 and 6 of the drawings, a second embodiment is shown having four slides 21 through 24. Each slide is movable in one direction and as shown in Figure 6 of the drawings, the slides can be arranged to provide an opening 25 of the desired size and at the desired location on the substrate 11. (Column 2 lines 39-44)

In operation the masks can be mechanized by any suitable means, such as slides and gear trains, and can be positioned automatically, as by punched cards or a tape. For example, in making the unit shown in Figure 1 of the drawings, the slides can be moved to form an opening for the capacitor 13. If a continuous pattern is desired, such as shown in Figure 2 of the drawings, the masks can be moved continuously, s by a servo system, and the film can be deposited as the masks are traveling at a given constant speed. (Column 2 lines 58-69)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 1753

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-10, 12 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shouji et al. (U.S. Pat. 5,799,388) in view of Triller (U.S. Pat. 3,193,408).

Shouji et al. is discussed above and all is as applies above. (See Shouji et al. discussed above)

The differences between Shouji et al. and the present claims is that the use of a dynamic mask comprised of shutters with actuators to move the shutters is not discussed,

Triller is discussed above and teaches a dynamic mask made up of at least two shutters, which move, by actuators such as slides and gear trains to mask one portion of the substrate while exposing another portion of the substrate. Punched cards provide automatic control of the slides and gear trains to move the shutters. (See Triller discussed above)

The motivation for utilizing a dynamic mask made up of at least two shutters is that it allows for providing a pattern on a substrate without first having to make a masking layout and mask. (Column 1 lines 42-45)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Shouji by providing a dynamic mask made up of at least two shutters as taught by Triller because it allows for providing a pattern on a substrate without first having to make a masking layout and mask.

Allowable Subject Matter

Claims 11, 13-18 and 33-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 39 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 11 is indicated as being allowable over the prior art of record because the prior art of record does not teach the claims subject matter including a controller for the actuator, the controller actuating each of the first and the second shutter between an open position where the shutter is not covering a portion of the elongated element and a covering position where the shutter is covering a portion of the elongated element; and a mechanism for measuring a property associated with a selected portion of the elongated element, wherein the controller actuates the first shutter and the second shutter in response to a selected value of a measured property.

Claims 13-18 are indicated as being allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including wherein at least two of the magneto resistive elements of the row of a plurality of

magneto resistive elements are monitored for electrical resistance, the apparatus further comprising a controller for the actuator, the controller actuating each of the first shutter and the second shutter between an open position where the at least one of the first and second shutter is not covering a portion of the elongated element, and a covering position where the at least one of the first and second shutter is covering a portion of the elongated element, in response to the electrical resistance associated with that portion of the elongated element being at a predefined value.

Claims 33-38 are indicated as being allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including a controller for the actuator, the controller actuating the at least one shutter between an open position where the at least one shutter is not covering a portion of the elongated element and a covering position where the at least one shutter is covering a portion of the elongated element; and a mechanism for measuring a property associated with a selected portion of the elongated element and a covering position where the at least one shutter is covering a position of the elongated element.

Claim 39 is indicated as being allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including a controller for the actuator, the controller actuating the at least one shutter between an open position where the at least one shutter is not covering a portion of the elongated element, and a covering position where the at least one shutter is covering the portion of the elongated element, in response to a monitored property level associated with the portion of the elongated element being at a predefined value.

Art Unit: 1753

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
May 17, 2004